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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,559	07/30/2003	Tetsuya Nagata	501.42964X00	6532

20457 7590 10/18/2005

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EXAMINER	
TON, MINH TOAN T	
ART UNIT	**PAPER NUMBER**
2871	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/629,559	NAGATA ET AL.	
	Examiner	Art Unit	
	Toan Ton	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-8,11-13,15-17 and 20-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-8,11-13,15-17 and 20-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 4-8, 13, 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morosawa et al (JP 06-132306, IDS reference).

Morosawa discloses an active matrix substrate comprising (see at least Figure 2): thin film transistors characterized in that each thin film transistor includes a silicon film, a gate electrode, and a source electrode; between the silicon film and the substrate and between the electrode and the substrate, a silicon oxide film and a silicon nitride film are formed, wherein the silicon nitride (SiN) film is formed between the silicon oxide film and the substrate.

Morosawa discloses (see at least Figure 2) a silicon oxide film (a thickness of 1000Angtroms) and a silicon nitride film formed on the surface of the substrate (a thickness of 1000-4000A, larger than 1000 Angstroms, overlapping Applicant's range of 130-160 nm, 126-165 nm and 118-169 nm) for advantages such as achieving excellent quality for the silicon film. It is noted that it has been held that overlapping ranges are at least obvious. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ a silicon nitride film and a silicon oxide formed on the surface of the substrate for advantages such as achieving excellent quality for the silicon film.

Semiconductor elements such as TFT are commonly used and known to be included in LCD devices for advantages such as cross-talk reduction. Morosawa discloses a typical TFT element that would be commonly used in LCD devices.

The use of an IPS type LCD device is known in the art for providing advantages such as large viewing angle due to at least the formation of the pixel electrode and the common electrode formed on the same substrate with an insulation (organic) film there between. Therefore, it would have been at least obvious to one of ordinary skill in the art to employ an IPS type LCD device for achieving advantages such as large viewing angle.

3. Claims 11-12, 16 and 20-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morosawa as applied to claims 1, 4-8, 13, 15 and 17 above, and further in view of Baek (US 6657689).

In general, a liquid crystal display (LCD) is classified as a transmission type and a reflection type depending on implementing an internal or external light source. The transmission type uses a backlight; and the reflection type comprises uses ambient light. However, the transmission type LCD comprises problems such as high power consumption, and the reflection type LCD comprises problems such as low visibility in dark environment (see Baek, at least in background of the invention)

These problems are solved through the use of a transflective type LCD device, wherein this type of LCD device realizes both a transmissive mode display and a reflective mode display (see at least Figure 2: the pixel electrode includes a reflective electrode and a light-transmissive electrode, a distance from the substrate to the reflective electrode is different from the a distance

from the substrate to the light-transmissive electrode; an insulator is formed between the reflective electrode and a substrate; a backlight is formed outside the substrate). Therefore, it would have been at least obvious to one of ordinary skill in the art to employ a transflective display mode for achieving advantages such as bright ambient light and low power consumption (see Baek, at least in background of the invention).

Response to Arguments

4. Applicant's arguments with respect to all claims pertaining to Yamanaka have been considered but are moot in view of the new ground(s) of rejection.

The use of an IPS type LCD device is known in the art for providing advantages such as large viewing angle due to at least the formation of the pixel electrode and the common electrode formed on the same substrate with an insulation (organic) film there between. Therefore, it would have been at least obvious to one of ordinary skill in the art to employ an IPS type LCD device for achieving advantages such as large viewing angle.

In general, a liquid crystal display (LCD) is classified as a transmission type and a reflection type depending on implementing an internal or external light source. The transmission type uses a backlight; and the reflection type comprises uses ambient light. However, the transmission type LCD comprises problems such as high power consumption, and the reflection type LCD comprises problems such as low visibility in dark environment (see Baek, at least in background of the invention).

It is noted that Applicant has not stated that the above are not known in the (LCD) art.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Ton whose telephone number is (571) 272-2303.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

October 7, 2005

TOAN TON
PRIMARY EXAMINER